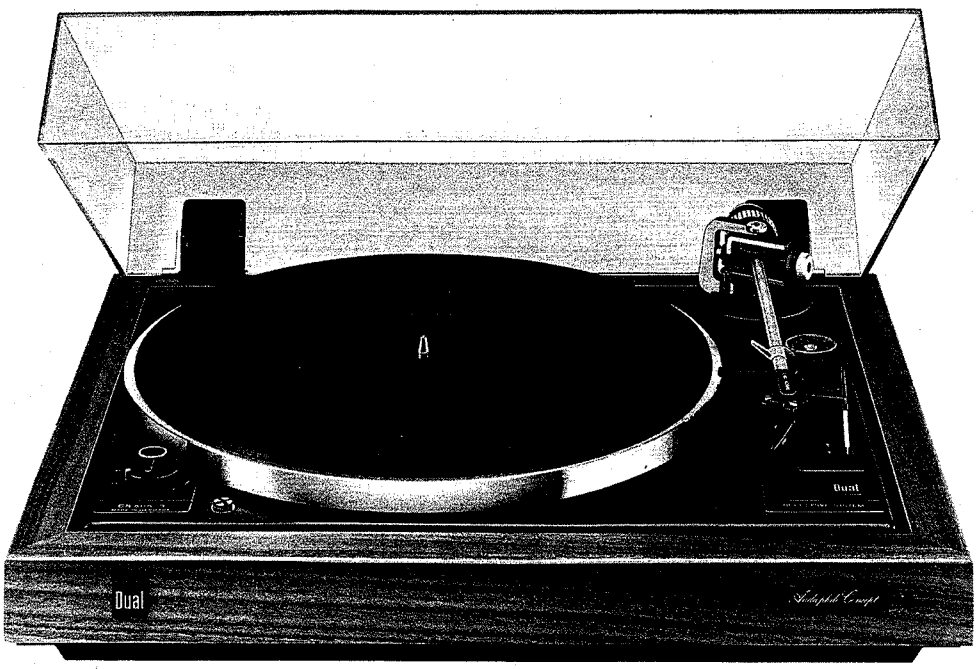
DUAL-00574

Dual



CS 505-3 *Audiophile Concept* HiFi Turntable

Operating Instructions

Sehr verehrte Kundin, sehr geehrter Kunde
Wir wünschen Ihnen viel Freude mit Ihrem DUAL-Gerät.
Bitte, lesen Sie vor der ersten Inbetriebnahme diese Bedienungsanleitung sorgfältig durch.
Sie lernen dadurch alle Möglichkeiten des Gerätes und die Bedienung kennen.
Für den Kundendienst und für Garantieleistungen ist ausschließlich Ihr Fachhändler zuständig.
Er kennt DUAL-Geräte am besten, denn DUAL schult und informiert laufend seine Fachhandelspartner.

Dear customer
You are now the owner of a DUAL unit of guaranteed quality.
Please read these instructions carefully before using your new equipment for the first time. Even through operation is rather simple, you can only utilize the full advantages, if you are throughly familiar with the particular features of this unit.
Your dealer has sole authorization in respect of servicing and repairs under warranty. Your dealer will guarantee that any work carried out is of high quality and he also is a DUAL specialist trained and kept up to date by DUAL.

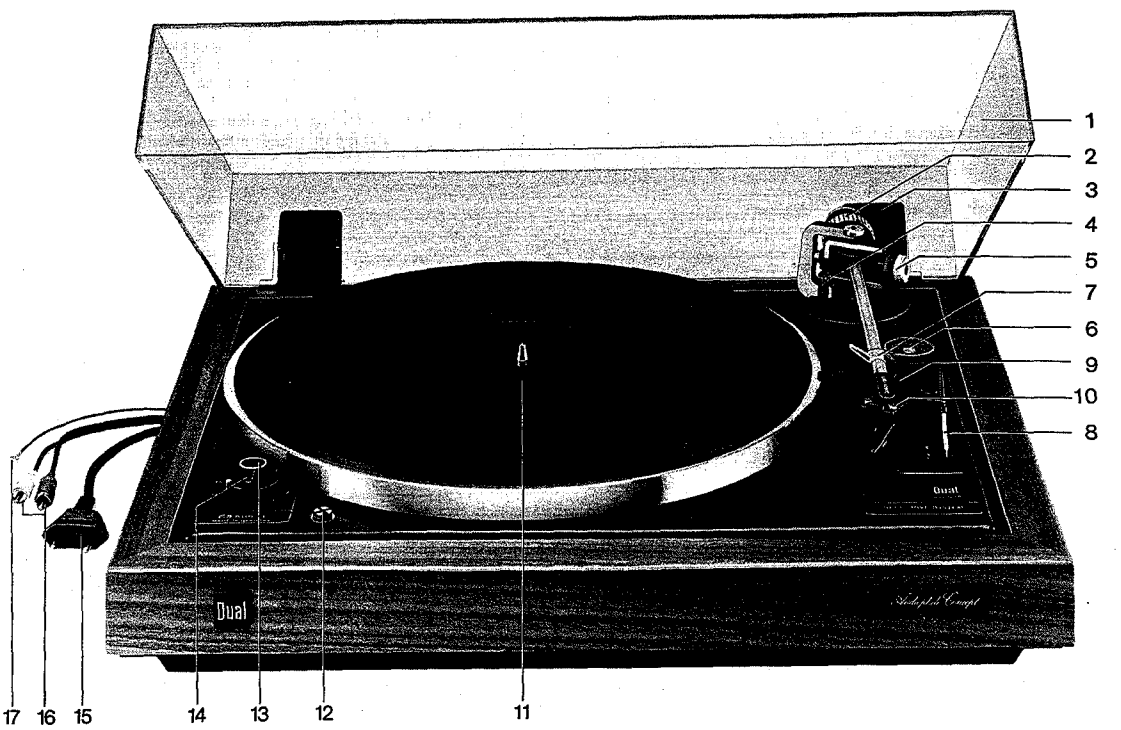
Chère cliente, cher client
En achetant cet appareil DUAL chez votre revendeur, vous venez d'acquérir un produit de qualité.
Veuillez lire ces instructions de service avant de mettre l'appareil en marche. Sa manipulation ne vous posera certainement aucun problème, mais vous ne pouvez utiliser pleinement toutes les possibilités de l'appareil que si vous le connaissez bien.
Seul votre revendeur est compétant pour le service aprés-vente et les cas de garantie. Il effectuera les travaux de garantie; et il connait très bien les appareils DUAL car DUAL donne une formation à ses partenaires du commerce spécialisé et les tient informés en permanence.

Zeer geachte cliënt
Met de aankoop van dit DUAL apparaat bij Uw vakhandelaar, bent U in het bezit gekomen van een kwaliteits produkt.
Alvorens het apparaat in gebruikt te nemen, eerst de gebruiksaanwijzing goed lezen. Dit kan U later eventuele mogelijkheden, wat betreft de bediening, besparen.
Voor servicedienst en garantie, is uitsluitend Uw vakhandelaar verantwoordelijk.
Hij verleend U garantie, en hij kent de DUAL apparaten door en door, want DUAL schoold en informeerd doorlopend zijn vakhandelaren.

Apreciada clienta, apreciado cliente
Al decidirse por este aparato DUAL, Ud. ha adquirido un producto de calidad.
Le rogamos lea detenidamente el presente manual de instrucciones, antes de poner en marcha el aparato. Su manejo no presenta ninguna dificultad, pero solo tras haberse familiarizado por completo con el aparato, Ud podrá disfrutar de todas las posibilidades que le ofrece.
Para el servicio técnico y de garantia es competente únicamente su distribuidor especializado. El se hace cargo de las reparaciones en garantia y conoce mejor que nadie los aparatos DUAL, puesto que DUAL le mantiene al corriente con al necesaria información técnica.

Högt ärade kund
Genom Ert köp av denna DUAL apparat hos Er radiohandlare har Ni förvärvat en kvalitetsprodukt.
Läs igenom den här bruksanvisningen innan Ni börjar använda apparaten. Handavandet av apparaten ger er säkert inga problem men Ni kan utnyttja alla möjligheter helt, först när Ni kan apparaten bra.
För kund- och garantiservice är endast Er radiohandlare ansvarig. Han ger Er garanti och känner också DUAL's anläggningar bäst, eftersom DUAL är skyldig att ge löpandeinformation till sina radiofackhandlare.

Cari clienti
Con l'acquisto di questo apparecchio DUAL vi siete assicurato un prodotto di qualità.
Preghiamo di leggere queste istruzioni d'uso prima di mettere in funzione l'apparecchio. L'uso dell'apparecchio certamente non crea problemi, ma diventa possibile assicurarsi tutti i vantaggi dell'apparecchio solo quando lo si conosce a fondo.
Per il servizio tecnico sono competenti esclusivamente i centri servicio tecnico DUAL. L'indirizzo del più vicino centro potrete trovare sulle Pagine Gialle sotto la voce «televisori e radio-apparecchiriparazione» oppure tramite il vostro rivenditore di fiducia. Solo i centri di servizio DUAL sono in grado di effettuare gli interventi in garanzia anche perchè sono continuamente informati sulle innovazioni tecniche dei prodotti DUAL.



WARNING: To prevent fire or shock hazard, do not expose this product to rain or moisture.

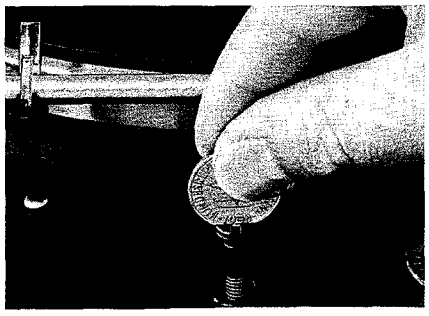


Fig. 1

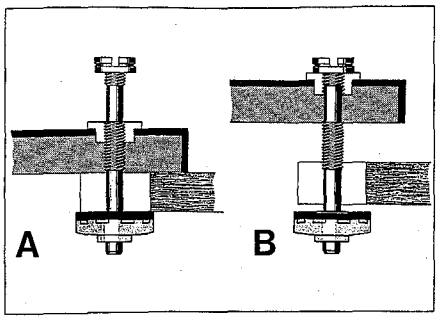


Fig. 2

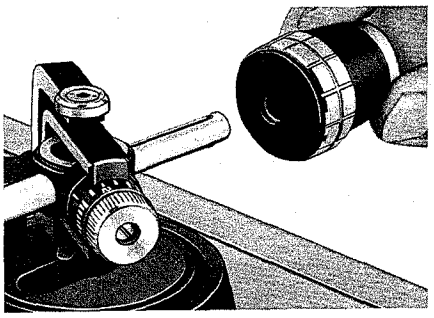


Fig. 3

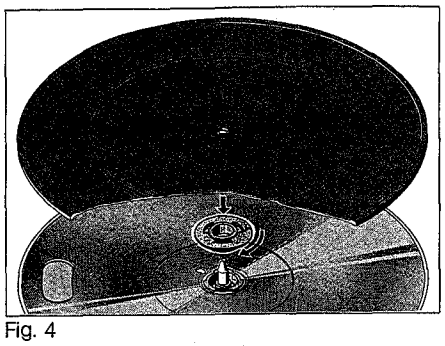


Fig. 4

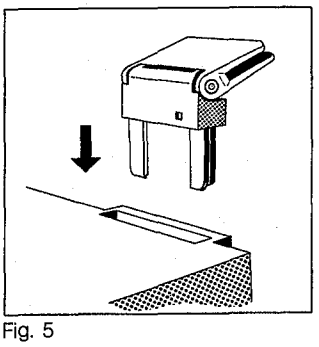


Fig. 5

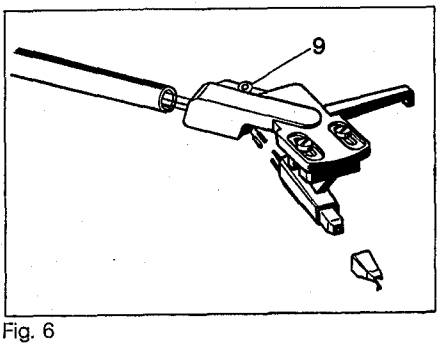


Fig. 6

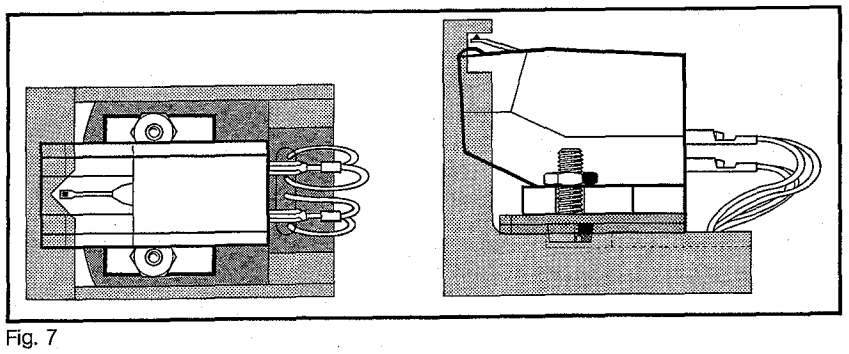


Fig. 7

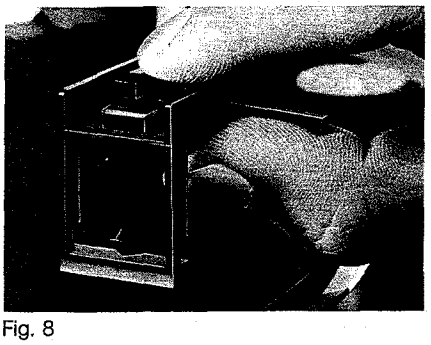


Fig. 8

ENGLISH

Operating features

1 Cover
2 Hinge
3 Tonearm counterbalance
4 Alignment screw for tonearm height
5 Stylus pressure setting
6 Anti-skating setting
7 Tonearm post with tonearm rest
8 Cueing control
9 Socket hex bolts for fastening phono head
10 Fastening bolts for phono cartridge
11 Securing screw for platter
12 Transport locking screw
13 Pitch control
14 Platter speed setting
15 Mains lead plug
16 Audio Cinch plugs
17 Earth wire

Preparation for play

Remove the unit and all accessories from the shipping carton. Please keep all packing elements in case you should need them for later transport.

- Remove the safety screw which, in some cases, is additionally mounted on the left rear side.
  To release the transport locking screw (fig. 1) turn these in clockwise direction until they slide down approximately 15 mm and then tighten these by turning them further in clockwise direction. In this way, the record player is spring-mounted in playing position (fig. 2/B).
- Turn the tonearm counterweight **3** on the rear end of the tonearm (fig. 3).

Turntable

- Remove turntable, mounting washer and turntable cover from the package.
- Set the turntable down so that the 3 lock-in tabs on the support disc engage in the matching notches in the turntable.
- Insert the mounting washer, push down slightly and rotate approx. 60° in a clockwise direction (fig. 4).
  Turntable is secured.
  Set cover on turntable.

Dust cover

- Insert the hinges **2** in the appropriate recesses (fig. 5). Slide the cover **1** parallel to the position of the hinges **2** (opening angle approximately 60°) unit it locks in position. In this position, the cover can be removed at any time.

Connection to the AC mains

- The turntable must be connected to a mains voltage of 230 V/50–60 Hz or to 115 V/60 Hz in accordance with the voltage information on the rating plate.
- The unit can also be connected to the socket of appropriately fitted amplifiers.
- The set carries voltage even when stopped. It is necessary to unplug it from the mains outlet to cut power off.

Connection to amplifier or receiver

- Connect the audio cables to the phono-magnetic inputs of the amplifier or receiver (red RCA-type plug = right channel, white RCA-type plug = left channel).
- Connect earth wire **17** to the earth connector of your amplifier.

Balancing the tonearm and setting the tracking and antiskating force

1. Set the tracking force **5** and anti-skating **6** controls to "zero" (with the pointer L/H). Remove the stylus guard.
2. Unlock the tonearm and move it over the tonearm rest. Place the cue-control lever **8** in ▼ position. Hold the tonearm whilst doing so.
3. Balance the tonearm precisely by turning the counter-balance. The tonearm is balanced precisely when it pivots freely.
4. Set the required tracking force for the cartridge used by turning the dial **5**. The tracking force for series cartridges ULM 65 = 15 mN = dial position 1.5.
   Note: If a different cartridge is used, refer to the separate cartridge data sheet for the necessary setting values.

Set the appropriate value of the antiskating device **6** on the basis of the following table:

○ Setting for spherical styli.
○ Setting for biradial (elliptical) styli (ULM 65 E).

	Tracking force Tracking force scale **5**	Antiskating setting **6** "Dry" playing	"Wet" playing
	1 = 10 mN	1	0.7
	1.25 = 12.5 mN	1.25	0.8
ULM 65 →	1.5 = 15 mN	1.5	1.0
	2 = 20 mN	2	1.3
	2.5 = 25 mN	2.5	1.8
	3 = 30 mN	3	2,1

The antiskating device is switched off when the pointer is set to the left.

Start, cueing control

- Select the required platter speed 33 or 45 rpm with the knob **14**, remove the stylus protection cap, release the tonearm and position it over the lead-in groove of the record.

– The tonearm is now damped with the cue control lever **8**. Bring the cue control lever in to position ▼ and lower carefully onto the record.
– The tonearm can be raised at any arbitrary position – also for brief interruptions in playing – by means of the cue control lever (cue control lever in position ▼). The platter continues to turn.
– With the cueing control in ▼ position, the height of the stylus above the record can be varied by approximately 6 mm by turning the adjusting screw **4**.

Stop

– The tonearm is raised automatically at the end of the record and the device is switched off. You can also switch off the turntable by setting the cue control lever in position ▼ and then setting the tonearm back onto the tonearm rest.
– After you have finished using your turntable, we recommend that you set the tonearm on the rest, lock it in position and put the stylus protection cap back over the stylus.

Pitch control

Each of the two standard speeds (33⅓ and 45 rpm) can be varied with the pitch control. Adjustment is made with pitch control knob **13**. Adjustment range at 33⅓ rpm approx. 1 semitone (6%).
– The pitch control maintains the nominal speed and provides for individual control of tempi and pitch of reproduction, for example, when the pitch of recorded music is to match a live musical instrument, or when a record passage is to match the length of a motion picture scene.
– The speed can be checked with the stroboscopic disc on the turntable platter. When the disc is illuminated by a light powered from alternating household current, the ring of lines corresponding to the choosen speed will appear to stand still when the turntable is rotating at the correct speed.

Exchange or installation of cartridge

A ½" cartridge weighing 2.5 . . . 8 g can be installed in place of the built-in cartridge or in equipment without a cartridge.
The Dual range of accessories includes appropriate cartridges.
– Remove terminal leads on cartridge.
– Loosen socket hex bolt **9**, then pull phono head forward and off. (fig. 6). Loosen the 2 fastening bolts and take off the cartridge.
– Use the installation template supplied to attach new cartridge to the phono head.
– If correctly installed, the needle – viewed from above – will be in the V-shaped groove of the system template. Seen from the side, the needle must be in the area of the rectangular groove (fig. 7).
– Slide phono head onto pickup arm as far as stop.
– With the aid of the supplied template, position the phono head parallel to the turntable and tighten the socket hex bolt **9** (fig. 8).
– Fasten the terminal leads to the cartridge terminal posts.

Red R right channel	blue GL left channel ground
Green RG right channel ground	white L left channel

Stylus

The stylis is subject to natural wear and tear during playing. We therefore recommend regular checks, which should be carried out after at least 300 playing hours in the case of diamond-tipped styli. Your dealer will be happy to do this for you cost-free. Worn out or damaged (chipped) styli damage records. Therefore, only use as replacements the stylus types recommended in the technical data of the cartridge. Other styli often cause audible reductions in quality and increased wear to records. Remove the stylus by pulling it diagonally downwards.
To fit a stylus in, follow the procedure in reverse order (fig. 6).

Subsequent transport

Make certain that the pickup arm is locked down and that the needle shield is in place.
– Loosen transport safety bolt by turning it counterclockwise, then pull it up and continue turning until tight (fig. 2/A).
– Remove balancing weight from pickup arm.

Electrical safety

The unit conforms to the international safety specifications IEC 65 (VDE 0860) and to the guidelines of the European Community, 82/499/EWG (VDE 0875).

Technische Daten Meßwerte = typische Werte Rumpel- und Gleichlaufwerte mit Lackfolie ermittelt	**Technical data** Measured values = typical values Rumble and wow and flutter values obtained with lacquer foil	**Caractéristiques techniques** Valeurs mesurées = valeurs typiques Ronflement et syncronisme determiné avec une feuille vernie	**CS 505-3**
Stromart Wechselstrom umrüstbar	**Current type** Alternating current changeable	**Courant** courant alternatif commutable	50 oder 60 Hz
Netzspannungen vom Werk eingestellt	**Mains voltages** fixed by the producer	**Tensions secteur** fixées manufacturier	220 – 240 oder, or 110 – 125 V
Riemenantrieb Dual 16-Pol-Synchron-Motor	**Belt drive** Dual 16-pole-synchronous motor	**Entraînement à courrole** Moteur synchrone 16 pôles Dual.	Dual SM 100-1
Leistungsaufnahme	**Power consumption**	**Consommation**	ca. 8 Watt
Stromaufnahme an 230 V 50 Hz an 115 V 60 Hz	**Power consumption** on 230 V 50 Hz on 115 V 60 Hz	**Consommation de courant** en 230 V 50 Hz en 115 V 60 Hz	 ca. 30 mA ca. 40 mA
Plattenteller nichtmagnetisch, abnehmbar	**Platter** non-magnetic, removable	**Plateau** antimagnétique, amovible	 1,2 kg, 304 mm Ø
Plattenteller-Drehzahlen	**Platter speeds**	**Vitesses du plateau**	33⅓, 45 U/min.
Tonhöhen-Abstimmung auf beide Plattenteller-Drehzahlen wirkend Regelbereich bei 33⅓ U/min.	**Pitch control** at both platter speeds adjustment range at 33⅓ rpm	**Réglage de la hauteur du son** sur les deux vitesses Plage de réglage à 33⅓ tr/mn	 6%
Gesamtgleichlauffehler DIN WRMS	**Wow and flutter** DIN WRMS	**Tolérance de vitesse totale** DIN WRMS	 ± 0,06 % ± 0,035%
Störspannungsabstand (nach DIN 45 500) Rumpel-Fremdspannungsabstand Rumpel-Geräuschspannungsabstand	**Signal-to-noise ratio** (in accordance with DIN 45 500) Rumble unweighted signal-to-noise ratio Rumble weighted signal-to-noise ratio	**Rapport signal/bruit** (suivant DIN 45 500) Signal/tension extérieure de ronflement Signal/tension perturbatrice de ronflement	 52 dB 75 dB
Wirksame Tonarmlänge	**Effective tonearm length**	**Longueur efficace du bras**	221 mm
Kröpfungswinkel	**Offset angle**	**Angle de coude**	24° 30'
Tangentialer Spurfehlwinkel	**Tangential tracking error**	**Angle d'erreur de piste tangential**	0,15°/cm
Magnet-Tonabnehmer HiFi DIN 45 500 rot R rechter Kanal grün RG rechter Kanal Masse blau GL linker Kanal Masse weiß L linker Kanal	**Cartridge** HiFi DIN 45 500 red R right channel green RG right channel ground blue GL left channel ground white L left channel	**Cellule** HiFi DIN 45 500 rouge R canal droit vert RG masse canal droit bleu GL masse canal gauche blanc L canal gauche	Dual ULM 65 E
Diamantnadel biradial	**Diamond stylus** biradial	**Aiguille/diamant** biradial	Dual DN 165 E 18 × 8 µm ⬭
Empfohlene Auflagekraft	**Tracking force**	**Force d'appui**	15 mN (10–20 mN)
Übertragungsbereich	**Frequency range**	**Bande passante**	10 Hz – 25 kHz
Übertragungsfaktor	**Output**	**Facteur de transmission**	4 mV/5 cms^{-1}/1 kHz
Compliance horizontal vertikal	**Compliance** horizontal vertical	**Compliance** horicontale verticale	25 µm/mN 30 µm/mN
Tonabnehmergewicht	**Cartridge weight**	**Poids de cellule**	2,5 g
Gesamtkapazität Tonarmleitung und Tonabnehmerkabel	**Total capacitance** Tonearm leads and audio-cables	**Capacité totale** Câble du bras et câble de la cellule	 ca. 160 pF
Achtung: Bei abweichender Tonabnehmerbestückung sind die erforderlichen Einstellwerte dem separaten Tonabnehmerdatenblatt zu entnehmen.	**Note:** If a different cartridge is used, refer to the separate cartridge data sheet for the necessary setting values.	**Attention:** Avec une autre cellule, se reporter à la fiche technique séparée pour les valeurs requises de réglage.	

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Dual GmbH, Postfach 1144, D-7742 St. Georgen

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